

CLAIMS

[1] A data reception device for receiving a data packet containing a plurality of packets, wherein

5 first time information regarding time at which the plurality of packets are generated is added to each of the plurality of packets, the data reception device comprising:

a receive data buffer unit for storing the plurality of packets contained in the data packet;

10 a receive data amount measuring unit for measuring a data amount stored in the receive data buffer unit;

a variable clock generation unit for generating a clock whose frequency is variable;

15 a time information output unit for outputting second time information counted in accordance with a frequency of the clock generated by the variable clock generation unit; and

20 a first time information comparison unit for comparing the first time information added to the plurality of packets with the second time information outputted from the time information output unit and for controlling timing of outputting the plurality of the packets stored in the receive data buffer unit, wherein

25 the receive data amount measuring unit controls a frequency of the clock generated by the variable clock generation unit in accordance with values measured by the receive data amount measuring unit.

[2] The data reception device according to claim 1, wherein the second time information outputted by the time information comparison unit is delayed by a predetermined offset time.

5 [3] The data reception device according to claim 2, wherein the time information output unit comprises:

a timer unit for outputting third time information counted in accordance with a frequency of the clock generated by the variable clock generation unit;

10 a time information extraction unit for extracting the first time information added to the plurality of packets stored in the receive data buffer unit;

an initialization unit for coinciding the third time information outputted by the timer unit with the first time information extracted by the time information extraction unit;
15 and

an offset unit for outputting the second time information by delaying, by the predetermined offset time, the third time information outputted by the timer unit.

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[4] The data reception device according to claim 3, wherein the offset unit changes the predetermined offset time in accordance with conditions of a transmission line where the data reception device is connected.

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[5] The data reception device according to claim 3, wherein the offset unit changes the predetermined offset time in accordance with a data amount accumulated in the receive data buffer unit.

5 [6] The data reception device according to claim 3, wherein the offset unit changes the predetermined offset time in accordance with a kind of a communication protocol.

[7] The data reception device according to claim 3,
10 comprising a second time information comparison unit for comparing the third time information outputted by the timer unit with the first time information extracted by the time information extraction unit and for controlling, based on a comparison result, a frequency of the clock generated by the variable clock generation unit.

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[8] The data reception device according to claim 7, wherein until a predetermined time from a time point of starting reception of the data packet has passed, a frequency of the clock generated by the variable clock generation unit is controlled by the second
20 time information comparison unit, and

after the predetermined time from the time point of starting reception of the data packet has passed, the frequency of the clock generated by the variable clock generation unit is controlled by the receive data amount measuring unit.

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[9] The data reception device according to claim 3, wherein after a predetermined time has passed, the receive data amount measuring unit starts controlling a frequency of the clock generated by the variable clock generation unit after predetermined time has passed.

[10] The data reception device according to claim 1, wherein the receive data amount measuring unit controls the frequency of the clock generated by the variable clock generation unit by using an average value, as a measured value, of data amounts accumulated in the receive data buffer unit.

[11] The data reception device according to claim 1, wherein the plurality of packets contained in the data packet are MPEG2-TS packets.

[12] The data reception device according to claim 1, wherein as the data packet, audio signals and video signals are encoded to be generated as a plurality of MPEG2-TS packets to each of which first time information regarding time at encoding time is added, and the plurality of MPEG2-TS packets having the added first time information are combined and transmitted from the data transmission device which is operable to generate the data packet.

[13] An integrated circuit for receiving a data packet

containing a plurality of packets, wherein

first time information regarding time at which the plurality of packets are generated is added to each of the plurality of packets, the integrated circuit comprising:

5 a receive data amount measuring unit for measuring a data amount stored in a receive data buffer unit, which is connected to the integrated circuit, for storing the plurality of packets contained in the data packet;

 a variable clock generation unit for generating a clock
10 whose frequency is variable;

 a time information output unit for outputting second time information counted in accordance with a frequency of the clock generated by the variable clock generation unit; and

 a first time information comparison unit for comparing
15 the first time information added to the plurality of packets with the second time information outputted by the time information output unit and for controlling timing of outputting the plurality of packets stored in the receive data buffer unit, wherein

 the receive data amount measuring unit controls a
20 frequency of the clock generated by the variable clock generation unit in accordance with values measured by the receive data amount measuring unit.